

REMARKS

A. Examiner Interview

Applicants wish to express their gratitude to Examiner Allen Ho and Examiner David Bruce for the courtesies that they extended to the undersigned and two of the inventors of the present application, Mr. John Wong and Mr. David Jaffray, during a personal interview that occurred on January 8, 2004. During the interview, several of the objections and rejections of the Office Action mailed on October 23, 2003 were discussed. A power point presentation was also provided by the Applicants that demonstrated several of the differences between the claimed invention and the prior art.

During the interview, a proposal for amending claim 1 was discussed. The proposed amendment added the phrase "said image contains at least three dimensional information of said object based on one rotation of said x-ray source around said object." As mentioned in the Interview Summary of January 8, 2004, Examiner Ho agreed "that the claimed invention distinguishes over the combination of Swerdloff and Hu which does not have enough data for three-dimensional reconstruction." It is believed that the above statement of Examiner Ho was made with the understanding that the data was based on one rotation of the x-ray source around the object. Based on Examiner Ho's position, claim 1 has been amended with the phrase mentioned above and so should be deemed patentable over Swerdloff and Hu.

B. Objections to Drawings

In the Office Action mailed on October 23, 2003, the proposed amendments to the drawings submitted on August 13, 2003 were objected to for not being presented on formal drawings. Accordingly, Applicants are resubmitting the changes made in the proposed amendments to the drawings submitted on August 13th where the changes are made on formal drawings. Accordingly, the objection has been overcome and should be withdrawn. Furthermore, Applicants request that the presently submitted drawings be accepted and entered.

C. Objections to Claims

Claims 3-5, 7, 9, 69, 74, 75 and 96 were objected to for matters of form. In particular, claim 3 was objected for reciting “said kV x-ray source.” Claim 3 has been amended to delete the phrase “kV.” Since there is antecedent basis for “said x-ray source,” the objection has been overcome and should be withdrawn.

Note that since claim 3 has been broadened by the amendment, the amendment is not related to patentability as defined in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 234 F.3d 558, 56 USPQ2d 1865 (Fed. Cir. 2000) (*en banc*), *overruled in part*, 535 U.S. 722 (2002).

Claim 4 has been objected to for using “x-ray.” Claim 4 has been amended to replace “x-ray” with “radiation” as suggested by the Office Action. Accordingly, the

objection has been overcome and should be withdrawn. Note that since claim 4 has been broadened by the amendment, the amendment is not related to patentability as defined in *Festo*.

Claims 5, 7 and 9 were objected to for failing to recite “further comprising.”

Claims 5, 7 and 9 have been amended to include “further comprising” as suggested by the Office Action. Accordingly, the objection has been overcome and should be withdrawn.

Note that the amendments of claims 5, 7 and 9 are being made to incorporate language that inherently reflects the intended meaning and scope of the claims and so the amendments are not related to patentability as defined in *Festo*.

Claims 69 and 96 were objected to for lacking the phrase “from an x-ray source.”

The Office Action asserted that there was confusion whether the recited x-rays came from the radiation source. Applicants traverse the objection. Claims 69 and 96 regard methods of treating an object and so it is irrelevant as to where the x-rays are generated from. It should be noted that Applicants have disclosed an embodiment where the radiation and x-rays are combined into a single source. (Page 34, lines 7-8). Since there is support for the claims, the objection is improper and should be withdrawn. Since claim 69 has been amended to incorporate elements inherently present in the claim, such amendments are not related to patentability as defined in *Festo*.

Claims 74 and 75 have been objected to for not deleting “63.” Claims 74 and 75

have been amended to delete “63” as suggested by the Office Action. Accordingly, the objection has been overcome and should be withdrawn. Since claims 74 and 75 have been amended to correct obvious typographical errors, such amendments are not related to patentability as defined in *Festo*.

It is noted with appreciation that the Office Action has identified the presence of two claims 94 and has treated the claim 94 added in Applicants’ Amendment of August 13, 2003 as being active while the claim 94 added in the Preliminary Amendment of August 29, 2002 was treated as being inactive. Applicants agree with the treatment of the claims and requests that the claim 94 of the August 29th Preliminary Amendment be canceled without prejudice. The subject matter of the canceled claim 94 has been represented as new claim 113 in the present Amendment. Since the cancellation of claim 94 of the August 29th Preliminary Amendment corrects an obvious typographical error, the cancellation of claim 94 is not related to patentability as defined in *Festo*.

D. 35 U.S.C. § 112, First Paragraph

Claims 6, 8, 10, 12, 13, 23, 26, 27, 65, 70, 77 and 95 were rejected under 35 U.S.C. § 112, first paragraph, because the claims were not described in the specification in such a way to enable one skilled in the art to make and/or use the claimed invention. In particular, claims 6, 8, 10, 12, 13, 65, 70, 77 and 95 were rejected because FIGS. 17(a)-(b) failed to disclose a rotating stage and FIG. 4 failed to disclose a radiation

source. Applicants traverse this rejection. The question under the first paragraph of Section 112 is whether the claimed invention is supported by the specification as a whole. As described on page 42, lines 5-13, an embodiment of a stage is table 443 which is used in the embodiments shown in FIGS. 17(a)-(b) and is able to translate and rotate about three axes. Since there is sufficient disclosure of an embodiment that encompasses the claims, the rejection is improper and should be withdrawn. Despite the impropriety of the objection, a proposed amendment for FIG. 17(a) is being submitted in which the various movements of table 443 are shown.

Claims 23, 26 and 27 were rejected because FIG. 22 failed to disclose two arms and a radiation source. Applicants traverse this rejection. The embodiment of FIG. 22 shows a C-arm 704 that has an imager 404 attached at one portion of the arm 704 and x-ray tube 402 at another portion of the arm 704. Applicants believe that each of these portions can be considered to be an arm. Accordingly, there is support for claims 23, 26 and 27 and so the rejection is improper and should be withdrawn. Despite the impropriety of the rejection, claims 23 and 26 have been amended to replace "arm" with "arm portion" in order to expedite prosecution of the present application. Since there is support for the new language, the rejection should be withdrawn.

Note that since the amendments to claims 23 and 26 do not change the intended scope and meaning of the claims, the amendments are not related to patentability as

defined in *Festo*.

Applicants note that claims 23, 26, 27 and 70 have not been rejected based on the prior art. Since the rejections based on Section 112, first paragraph have been shown to be improper and claims 23, 26 and 70 have been amended so as to be in independent form, the claims should be allowed.

Note that claims 23, 26 and 70 have been amended so as to incorporate subject matter that was inherently present in the original claims. Claims 23, 26 and 70 have also been amended to broaden the scope of the flat-panel imager by deleting reference to the phrase “amorphous silicon.” Accordingly, the amendments made to claims 23, 26 and 70 are not related to patentability as defined in *Festo*.

E. 35 U.S.C. § 112, Second Paragraph

Claims 71, 72, 97 and 98 were rejected under 35 U.S.C. § 112, second paragraph, because the claims were indefinite in meaning. In particular, the claims were rejected because it was unclear whether the x-rays were emitted from the radiation source or the x-ray source. Applicants traverse this rejection. Claims 71, 72, 97 and 98 regard methods of treating an object and so it is irrelevant as to where the x-rays are generated from. All that matters is whether or not they are emitted. It should be noted that Applicants have disclosed an embodiment where the radiation and x-rays are combined into a single source. (Page 34, lines 7-8). Since the claims are clear in meaning, the

rejection is improper and should be withdrawn.

Applicants note that claims 71, 72, 97 and 98 have not been rejected based on the prior art. Since the rejections based on Section 112, second paragraph have been shown to be improper and claims 71 and 97 have been amended so as to be in independent form, the claims should be allowed.

Note that claims 71 and 97 have been amended so as to incorporate subject matter that was inherently present in the original claims. Claims 71 and 97 have also been amended to broaden the scope of the flat-panel imager by deleting reference to the phrase “amorphous silicon.” Accordingly, the amendments made to claims 71 and 97 are not related to patentability as defined in *Festo*.

F. 35 U.S.C. § 103

1. Swerdloff et al., Hu and Roos et al.

a. Claims 1, 4, 5, 9, 11, 14-20, 28, 30, 31 and 35

Claims 1, 4, 5, 9, 11, 14-20, 28, 30, 31 and 35 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al. and Roos et al. Applicants traverse this rejection. In particular, claim 1 recites a cone-beam computed tomography system. The Office Action has conceded that Swerdloff et al. does not disclose a cone-beam computed tomography system. Indeed, Swerdloff et al. discloses a tomographic imaging system that produces tomographic or slice images of a slice of a patient. (Col. 6, ll. 27-

34). In operation, the patient is positioned on the table 101 and a slice image is taken. Next, the table 101 is incrementally moved to a second position so that a second slice image is taken. This process is repeated until multiple slice images are obtained as shown in FIGS. 13-14. (Col. 7, ll. 39-58). As mentioned on page 5, lines 20-23 of Applicants' specification, a system like Swerdloff et al. operates by having one or more 2-D slices reconstructed from the one dimensional projections constructed from 'fan-beams' and then stacking the 2-D slices upon one another. One of ordinary skill in the art would understand that Swerdloff et al.'s slice-by-slice imaging process is not the same as a cone-beam computed tomography system as recited in claim where the table is held stationary during the imaging process. As explained on page 5 of Applicants' Specification, a cone-beam computed tomography system reconstructs three-dimensional images from a plurality of two dimensional projection images formed at various angles about the subject being imaged.

The Office Action appears to be asserting that it would have been obvious to replace Swerdloff et al.'s x-ray source 46 with Hu's x-ray source 14, replace Swerdloff et al.'s detector array 50 with the detector array 72 of Roos et al., then perform a helical scan. However, Hu and Roos et al. do not cure the deficiencies of Swerdloff et al. While Hu discloses a type of cone beam computed tomography system, there is no motivation to replace Swerdloff et al.'s slice-by-slice imaging system with Hu's computed tomography

system and the detector system of Roos et al. In particular, Hu discloses a helical scan cone beam computed tomography system that employs an x-ray source 14 that generates x-rays that are directed towards the patient while the gantry 12 is rotating. A helical scan is achieved by moving the patient along the z-axis synchronously with the rotation of the gantry. Such a helical scan involves performing multiple rotations about an object in order to reconstruct an image (Col. 4, ll. 4-12; FIGS. 3 and 5). In contrast, independent claim 1 recites the image “contains at least three dimensional information of said object based on one rotation of said x-ray source around said object” (emphasis supplied). Since Hu’s device could not form a usable image based on just one rotation of the x-ray source, there is no suggestion in Hu to form an image based on one rotation of the x-ray source. Without such suggestion, the rejection is improper and should be withdrawn. Note that the Examiner has agreed to this argument as evidenced by the Examiner’s Interview Summary dated January 8, 2004.

The rejection is improper for the additional reason that there is no motivation to replace the detector of Swerdloff et al. with the flat panel imager of Roos et al. As explained in several scientific articles, including the enclosed article “Cone-beam Computed Tomography with a Flat-Panel Imager: Initial Performance Characterization,” by Jaffray et al., Med. Phys. Vol. 27, No. 6, June 2000, pp. 1311-1323 (see page 1321), the image generated by such a replacement is inferior to the images of Swerdloff et al.

when no such replacement is ever made in the first place. This teaching away from the recited combination is evidence that the rejection is improper and should be withdrawn.

Note that claim 1 has been amended to broaden the scope of the flat-panel imager by deleting reference to the phrase “amorphous silicon.” Accordingly, this amendment is not related to patentability as defined in *Festo*.

b. Claims 66-69, 73-76, 96 and 99

Claims 66-69, 73-76, 96 and 99 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu and Roos et al. Applicants traverse this rejection for several reasons. First, independent claims 69 and 99 each recites generating an image that “contains at least three dimensional information of said object based on one rotation of said x-ray source around said object.” As pointed out above in Section F.1.a, there is no motivation in either Swerdloff et al. or Hu to generate such an image. Furthermore, there is no motivation to form an image in Swerdloff et al. with Roos et al.’s flat panel imager since such an image would be inferior to Swerdloff et al.’s image, as pointed out above in Section F.1.a.

Note that claims 69 and 96 have been amended to broaden the scope of the flat-panel imager by deleting reference to the phrase “amorphous silicon.” Accordingly, these amendments are related to patentability as defined in *Festo*.

2. Swerdloff et al., Hu, Roos et al. and Cullity

a. Claims 2, 3 and 7

Claims 2, 3 and 7 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu, Roos et al. and Cullity. Applicants traverse this rejection. Claims 2, 3 and 7 depend directly or indirectly on claim 1. As pointed above in Section F.1.a, there is no motivation to alter Swerdloff et al. to either 1) replace its radiation source with Hu's x-ray source and cone beam helical scanning system or 2) replace its detector system with the flat panel imager of Roos et al. Cullity also does not cure the deficiencies of Hu and Roos et al. since it does not suggest altering Swerdloff et al. to either replace its radiation source with Hu's x-ray source and cone beam helical scanning system or to replace its detector system with the flat panel imager of Roos et al. Accordingly, the rejections of claims 2, 3 and 7 are improper for at least the same reasons stated above in Section F.1.a.

b. Claim 64

Claim 64 was rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu, Roos et al. and Cullity. Applicants traverse this rejection. Claim 64 depends directly on claim 69. As pointed out above in Section F.1.b, there is no motivation in either Swerdloff et al., Hu or Roos et al. to alter Swerdloff et al. to generate

an image that “contains three dimensional information of said object based on one rotation of said x-ray source around said object” or to form an image in Swerdloff et al. with Roos et al.’s flat panel imager since such an image would be inferior to Swerdloff et al.’s image, as pointed out above in Section F.1.a. Cullity also does not cure the deficiencies of Hu and Roos et al. since it does not suggest altering Swerdloff et al. to either replace its radiation source with Hu’s x-ray source and cone beam helical scanning system or to replace Swerdloff et al.’s detector system with Roos et al.’s flat panel imager. Accordingly, the rejection of claim 64 is improper for at least the same reasons stated above in Section F.1.b.

3. Swerdloff et al., Hu, Roos et al. and Dobbs

a. Claims 6, 8, 10 and 12

Claims 6, 8, 10 and 12 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu, Roos et al. and Dobbs. Applicants traverse this rejection. Claims 6, 8, 10 and 12 depend directly or indirectly on claim 1. As pointed above in Section F.1.a, there is no motivation to alter Swerdloff et al. to either 1) replace its radiation source with Hu’s x-ray source and cone beam helical scanning system or 2) replace its detector system with the flat panel imager of Roos et al. Dobbs also does not cure the deficiencies of Hu and Roos et al. since it does not suggest altering

Swerdloff et al. to either replace its radiation source with Hu's x-ray source and cone beam helical scanning system or to replace its detector system with the flat panel imager of Roos et al. Accordingly, the rejections of claims 2, 3 and 7 are improper for at least the same reasons stated above in Section F.1.a.

The rejections of claims 6, 8 and 10 are improper for the additional reason that there is no suggestion in Dobbs or Roos et al. to alter Swerdloff et al.'s table rotate about an axis. As shown in Swerdloff et al., the patient is contained within a ring. Rotating the table would result in the patient to fall off the table, or have the table collide with the ring, which are not desirable. It is noted that the Office Action has not disputed this assertion. Since there is no motivation to have the patient fall off of a table, the rejection is improper and should be withdrawn.

The rejection is improper for the additional reason that there is no motivation to place the rotatable seat of Dobbs within the ring of Swerdloff et al. since there would be no room to fit the patient. Again, the Office Action has not disputed this fact. Accordingly, there is no motivation to either rotate the table of Swerdloff et al. about an axis. Without such motivation, the rejection is improper and should be withdrawn.

b. Claims 65, 77 and 95

Claims 65, 77 and 95 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu, Roos et al. and Dobbs. Applicants traverse this rejection.

Claims 65 and 77 depend directly or indirectly on claim 69. As pointed out above in Section F.1.b, there is no motivation in either Swerdloff et al., Hu or Roos et al. to alter Swerdloff et al. to generate an image that “contains three dimensional information of said object based on one rotation of said x-ray source around said object” or to form an image in Swerdloff et al. with Roos et al.’s flat panel imager since such an image would be inferior to Swerdloff et al.’s image, as pointed out above in Section E.1.a. Dobbs also does not cure the deficiencies of Hu and Roos et al. since it does not suggest altering Swerdloff et al. to either replace its radiation source with Hu’s x-ray source and cone beam helical scanning system or to replace Swerdloff et al.’s detector system with Roos et al.’s flat panel imager. Accordingly, the rejections of claims 65, 77 and 95 are improper for at least the same reasons stated above in Section F.1.b.

The rejection of claims 65 and 77 is improper for the additional reason that there is no motivation in either Roos et al. or Dobbs to rotate Swerdloff et al.’s patient as mentioned above in Section F.4.a.

4. Swerdloff et al., Hu, Roos et al., Dobbs and Rockseisen

Claim 13 was rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu, Roos et al., Dobbs and Rockseisen. Applicants traverse this rejection. Claim 13 depends directly on claim 10 and indirectly on claim 1. As pointed above in Section F.3, there is no motivation in either Hu, Roos et al. or Dobbs to alter

Swerdloff et al. to either 1) replace its radiation source with Hu's x-ray source and cone beam helical scanning system or 2) replace its detector system with the flat panel imager of Roos et al. Rockseisen also does not cure the deficiencies of Hu, Roos et al. and Dobbs since it does not suggest altering Swerdloff et al. to either replace its radiation source with Hu's x-ray source and cone beam helical scanning system or to replace its detector system with the flat panel imager of Roos et al. Accordingly, the rejection of claim 13 is improper for at least the same reasons stated above in Section F.3.

5. Swerdloff et al., Hu, Roos et al. and Suzuki et al.

Claims 21, 22 and 29 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Roos et al. and Suzuki et al. Applicants traverse this rejection. Claims 21, 22, 24 and 29 depend directly or indirectly on claim 1. As pointed above in Section F.1.a, there is no motivation to alter Swerdloff et al. to either 1) replace its radiation source with Hu's x-ray source and cone beam helical scanning system or 2) replace its detector system with the flat panel imager of Roos et al. Suzuli et al. also does not cure the deficiencies of Hu and Roos et al. since it does not suggest altering Swerdloff et al. to either replace its radiation source with Hu's x-ray source and cone beam helical scanning system or to replace its detector system with the flat panel

imager of Roos et al. Accordingly, the rejections of claims 21, 22 and 29 are improper for at least the same reasons stated above in Section F.1.a.

6. Swerdloff et al., Hu, Roos et al. and Richey et al.

Claims 32-34 were rejected under 35 U.S.C. § 103 as being obvious in view of Swerdloff et al., Hu, Roos et al. and Richey et al. Applicants traverse this rejection. Claims 32-34 depend directly or indirectly on claim 1. As pointed above in Section F.1.a, there is no motivation to alter Swerdloff et al. to either 1) replace its radiation source with Hu's x-ray source and cone beam helical scanning system or 2) replace its detector system with the flat panel imager of Roos et al. Richey et al. also does not cure the deficiencies of Hu and Roos et al. since it does not suggest altering Swerdloff et al. to either replace its radiation source with Hu's x-ray source and cone beam helical scanning system or to replace its detector system with the flat panel imager of Roos et al. Accordingly, the rejections of claims 32-34 are improper for at least the same reasons stated above in Section F.1.a.

G. Claims 1, 18, 20, 23, 26, 32, 69-71, 94, 96 and 97

Claims 1, 18, 20, 23, 26, 32, 69-71, 94, 96, 96 and 97 have been amended so as to use the word "computed" which is more commonly used in the art than the words that were replaced. Since the amendments do not change the intended meaning or scope of the claims, the amendments are not related to patentability as defined in *Festo*.

H. Claims 36-62 and 81-93

Claims 36-62 and 81-93 are directed to non-elected inventions that were subject to a Restriction Requirement as mentioned in the Office Action mailed on April 10, 2003. Claims 36-62 and 81-93 have been withdrawn from consideration in the present application. Accordingly, the cancellation of claims 36-62 and 81-93 is not related to patentability as defined in *Festo*. Note that Applicants reserve the right to file one or more divisional applications regarding the inventions recited in claims 36-62 and 81-93.

I. Claims 78-80

Applicants note with appreciation that claims 78-80 have been allowed. Note that claims 78 and 80 have been amended to broaden the scope of the flat-panel imager by deleting reference to the phrase “amorphous silicon” since such a limitation is not needed for patentability of the claims. Accordingly, this amendment is not related to patentability as defined in *Festo*.

J. Claim 94

Applicants note with appreciation that claim 94 has been indicated to contain allowable subject matter. Accordingly, claim 94 has been amended so as to be in independent form and so should be allowed.

Note that claim 94 has been amended so as to incorporate subject matter that was inherently present in the original claim. Claim 94 has also been amended to broaden the

scope of the flat-panel imager by deleting reference to the phrase “amorphous silicon” since such a limitation is not needed for patentability of the claim. Accordingly, the amendments made to claims 94 are not related to patentability as defined in *Festo*.

K. New Claims 103-128

New claims 103-128 depend directly on either claim 1, 23, 26, 69-71, 78, 80, 94, 96 or 97 and so are patentable for at least the same reasons that claims 1, 23, 26, 69-71, 78, 80, 94, 96 and 97 are allowable as mentioned above in Sections D-H.

Claim 103 is patentable over the combination of Swerdloff et al., Hu and Roos et al. since neither reference suggests having a computer receives an image of the object and based on the image send a signal to the radiation source that controls the path of the radiation source as recited in claim 103. Claim 103 recites that the signal sent is not based on human intervention so that the control of the path of the radiation source is performed “in an automatic manner without human intervention.” In contrast, Swerdloff et al. requires human intervention for its radiation therapy process. Since Hu and Roos et al. also do not suggest having a radiation path being controlled by a computer based on an image and without human intervention, claim 103 is patentable over Swerdloff et al., Hu and Roos et al.

Claims 104-106 are patentable over the combination of Swerdloff et al., Hu and Roos et al. since neither reference suggests eliminating Swerdloff et al.’s closed opening

that is formed in the structure that supports the imaging system and the radiation therapy system. Without such suggestion, the claims are patentable over Swerdloff et al., Hu and Roos et al.

Claims 109 and 110 are patentable over the combination of Swerdloff et al., Hu, Roos et al. and Dobbs since neither reference suggests rotating Swerdloff et al.'s 101 about multiple axes as pointed out previously in Section F.3. Without such suggestion, the claims are patentable over Swerdloff et al., Hu and Roos et al.

Claims 115 and 126 are patentable over the combination of Swerdloff et al., Hu and Roos et al. since neither reference suggests having the object remain at a single position during emitting, detecting and controlling. As mentioned in Section F.1, Hu teaches away from claims 115 and 126 in that it requires a translation of the object to form an image. Accordingly, claims 115 and 126 are patentable over Swerdloff et al., Hu and Roos et al.

Claims 116 and 127 recite that controlling the path is performed automatically and without human intervention. As pointed previously with respect to claim 103, Swerdloff et al., Hu and Roos et al. do not suggest altering Swerdloff et al. to operate in an automatic manner and without human intervention. Accordingly, claim 116 and 127 are patentable over Swerdloff et al., Hu and Roos et al.

Claim 124 is patentable over the combination of Swerdloff et al., Hu and Roos et

al. since neither reference suggests having the object not substantially moving during the detection of x-rays. As mentioned in Section F.1, Hu teaches away from claim 124 in that it requires a translation of the object to form an image. Accordingly, claim 124 is patentable over Swerdloff et al., Hu and Roos et al.

Claim 125 is patentable over the combination of Swerdloff et al., Hu and Roos et al. since neither reference suggests having Swerdloff et al. direct its therapy radiation and emit x-rays simultaneously. It is not clear that the x-ray system of the Swerdloff system would work properly with the therapy radiation operating due to the contribution of therapy radiation to the imaging signal. The information provided in a single projection for a slice or fan-beam detection approach would not be sufficient to permit detection of errors or provide feedback for direction of the radiation delivery. Accordingly, claim 125 is patentable over Swerdloff et al., Hu and Roos et al.

Note that new claims 103-128 are being presented to provide additional coverage for the inventions of claims 1, 23, 26, 69-71, 78, 80, 94, 96 and 97. Accordingly, claims 103-128 are not being added for reasons of patentability as defined in *Festo*.

L. Statement of Reasons for Allowance

It is noted that a statement of reasons for allowance for claims 78-80 have been given. Applicants traverse the statement to the extent that there are other and broader reasons for the allowance of the claims.

CONCLUSION

In view of the arguments above, Applicants respectfully submit that all of the pending claims 1-23, 26-35, 64-80 and 94-128 are in condition for allowance and seeks an early allowance thereof. If for any reason, the Examiner is unable to allow the application in the next Office Action and believes that an interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned attorneys at (312) 321-4200.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J.C. Freeman", is written over a horizontal line.

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Annotated Marked-Up Drawings

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Fig. 1(c)

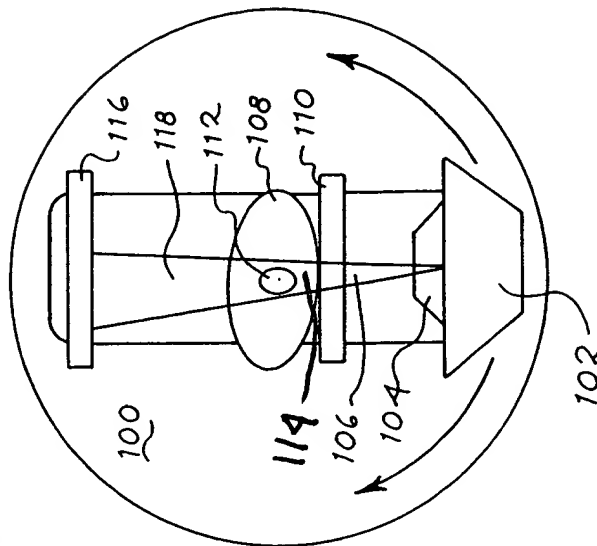


Fig. 1(b)

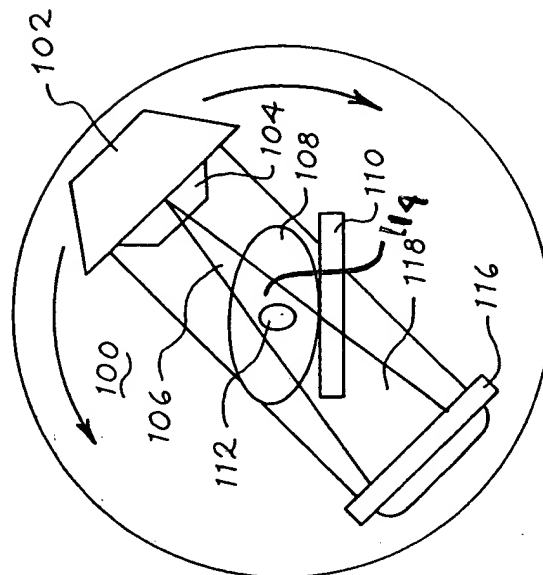
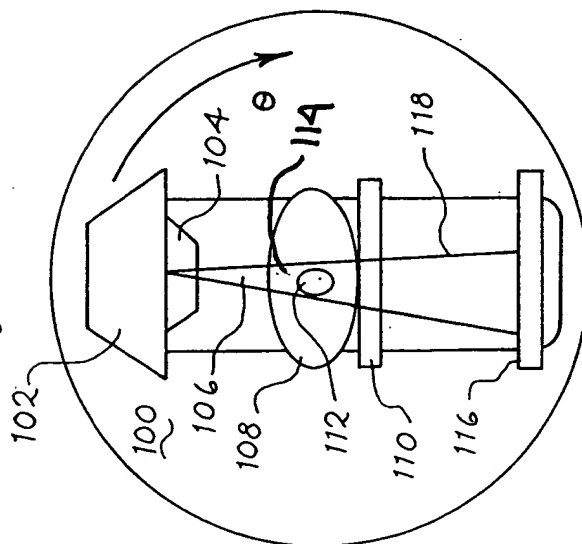


Fig. 1(a)





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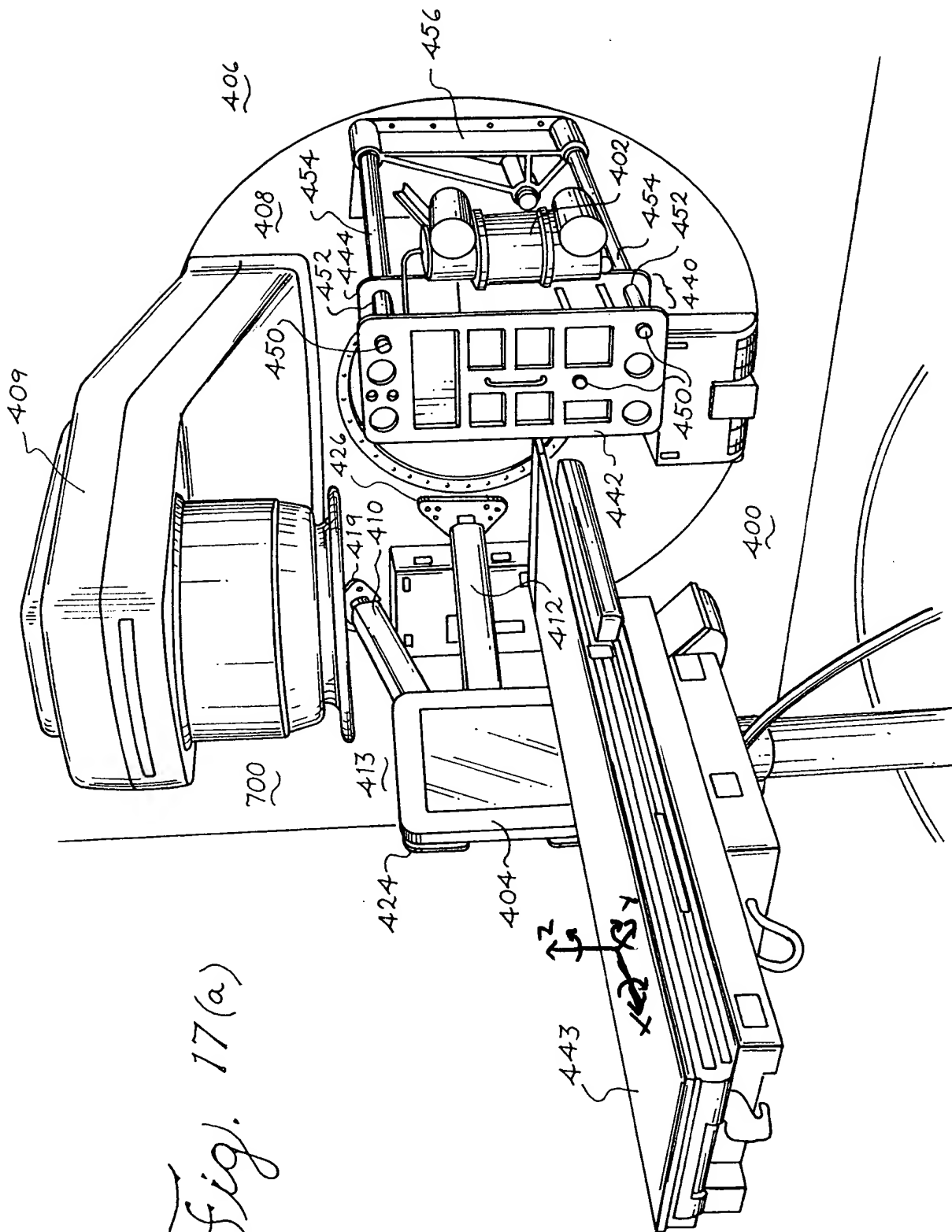


Fig. 17(a)

Fig. 25

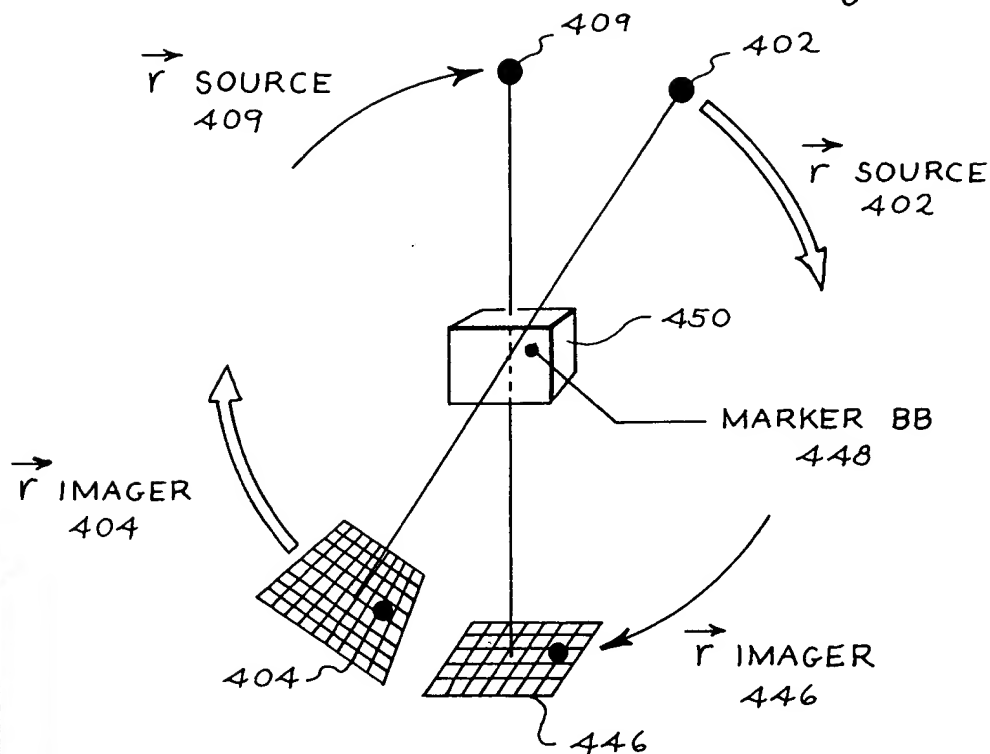


Fig. 18

